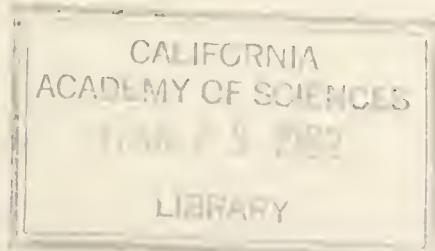


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the Gull

Volume 64

Berkeley, Calif.

April 1982

Number 4

Clapper Rails, Least Terns and Cuckoos

All of these beautiful birds have something in common that is very important. Come to our April membership meeting on endangered species and the 1982 reauthorization campaign. Mark J. Palmer, Sierra Club regional vice president, will present a slide show and discussion of endangered species present in California and how their future will be jeopardized if a strong Endangered Species Act is not maintained.

Kenneth Berlin, counsel and legislative director for wildlife programs from NAS's Washington office and chairman, Endangered Species Re-authorization Co-ordinating Committee, will speak. There will be free bulletins, other information, a literature display and, of course, refreshments. Bring the whole family and friends.

The meeting will be Thursday, April 8, at 7:30 p.m. at the Northbrae Community Church, 941 The Alameda, Berkeley. See you there!

—PROGRAM COMMITTEE

Birdathon Time Again

The 1982 NAS Birdathon will be held the weekend of April 24-25. The purpose of this national effort is to raise funds to support national, regional and local conservation programs.

As the conservation gains of the past 20 years are eroded, it is vital your Audubon societies have the funds to support their efforts. During the past year we have been involved in issues ranging from a legal

(please turn to page 56)

Field Trips Calendar

See the March *Gull* for details on the following trips:

Sunday, April 4—Lake Merced, San Francisco.

Sunday, April 4—Beginners' Trip to Five Brooks, Bolinas Lagoon and Anderson Canyon Ranch.

Saturday, April 10—Bothe-Napa State Park. This is a particularly beautiful park in the spring, with migrating warblers and vireos, Winter Wrens, wildflowers and, if we are lucky, Pileated Woodpeckers. We will walk four to five miles and will mostly bird by ear. From the East Bay take I-80 north, turn off to Napa, following Hwy. 29 to St. Helena. Just past the Old Bale Mill north of St. Helena, the entrance to the park is on your left. From the West Bay, take Hwy. 101 north to Hwy. 37 near Novato, go east to the junction with Hwy. 121, turn left and follow 121 north and east to Napa where it joins Hwy. 29. Continue northwest to the park. Meet in the parking lot at **9 a.m.** Bring lunch and liquids. There is a day use fee. Please carpool if possible. Leader: Gene Hull (525-6892). (✓)

Sunday, April 11—Golden Gate Park, San Francisco. We will meet at **9:30 a.m.** for the traditional Easter walk around the Chain of Lakes and the other lakes in the vicinity. There is a variety of waterfowl including Wood Ducks at this time of year. We also should see at least two varieties of hummingbirds. After the walk we will have a champagne brunch at the Wave restaurant (\$4-\$5). We will meet at 43rd Ave. and Fulton St. near North Lake (Chain of Lakes). Leader: Betty Short (921-3020 - work phone).

Wednesday, April 14—Mini-trip to Mitchell Canyon. We will meet at **9:30 a.m.** Take Hwy. 24 through the Caldecott Tunnel. At Walnut Creek take Ygnacio Valley Rd. Go about 5 miles, turn right at Clayton. Go about a mile, make a right turn on Mitchell Canyon Rd. and go to parking lot at the end of the road. This is a delightful area; easy stream-side walking with many songbirds, especially Bewick's Wrens and Lazuli Buntings. Leaders: Delpha de Timofeev and Ruth Voss (525-8032).

Saturday, April 17—Lake Merced, San Francisco. Meet at **8 a.m.** at the south end of Sunset Blvd. in the Lake Merced Circle. This is a fine time to see spring migrants as well as many of the birds which winter in the area. We will caravan to Fort Funston to see Black Scoters

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and the Bank Swallow colony. Bring lunch, liquids and dress appropriately for cool coastal weather. We will bird until mid-afternoon. Leader: Dan Murphy (564-0074).

Sunday, April 18—Briones Regional Park—Wildflower Trip. Meet at 8:15 a.m. at the North entrance to Briones Regional Park. From San Francisco take Hwy. 24 to Lafayette. Exit on Pleasant Hill Rd. north. Turn left onto Reliez Valley Rd. about one mile after leaving Hwy. 24. The turnoff to the north entrance is marked by a sign and is about 5.4 miles beyond the intersection of Pleasant Hill and Reliez Valley just after Reliez Valley becomes Alhambra. Note: do not stop at the Reliez Valley trailhead which you will pass while on Reliez Valley Rd. Be prepared to carry lunch on an easy three-mile hike. This trip is designed as an introduction to the identification of spring wildflowers. Leader: Peter White (229-1714).

Saturday, April 24—Alameda and San Leandro Shoreline. Meet at 9 a.m. in Alameda, at Broadway and Shoreline Dr. We will bird the Elsie B. Roemer Bird Sanctuary and the San Leandro Bay Regional Shoreline. Toward the end of the day we will look for Burrowing Owls on Bay Farm Island. Be sure to bring lunch and liquids. We should see migrating shorebirds, many in breeding plumage. Bring a scope if you have one. Leader: Leora Feeney (522-8525). (✓)

Sunday, April 25—Mines Rd., Livermore. Meet at 8 a.m. in the parking lot of the Vineyard Shopping Center at S. Livermore and Pacific in Livermore. From there we will drive on mountain roads to Patterson. Bring food and liquids or buy lunch at the Branding Iron around noon. The habitat is such that we can expect to see Northern Oriole, Lewis' Woodpecker and Phainopepla. Roadrunners and wild turkeys have also been seen on this trip. Leader: Art Edwards (447-3720). (✓)

Saturday, May 1—San Andreas Lake and Lower Crystal Springs Reservoir. Meet at 8 a.m. at the north gate of Sawyer Camp Bicycle Trail in Millbrae, San Mateo County.

From San Francisco take Hwy. 280 south, exit at Larkspur Ave., go under the freeway, turn right on Skyline Blvd. and continue south to Hillcrest Blvd., turn right and go to the end of the road (the trailhead). From the south (Hwy. 92) go north on Hwy. 280 to the Millbrae Ave. exit. From Millbrae Ave. go north about a block, turn left at Hillcrest, follow it to the end and park. Bring lunch, liquids and footgear appropriate for hiking about seven miles. Leader: Alan Hopkins (585-5669). (✓)

Sunday, May 2—Bodega Bay. Meet at 8:30 a.m. in the upper parking lot of the Tides Restaurant (the lot is located on the east side of Hwy. 1 next to the Union gas station). Our first stop will probably be Doran State Park which has a \$2 per car day-use fee. From there

we'll bird the perimeter of the Bay, Bodega Head and, if people want to stay after lunch, the Salmon Creek area, "Tilt City," or . . . ?

Lunch optional. Bring clothes adaptable for anything from rain, fog or cold winds to calm and lovely weather. You *can't* tell what it's going to be like in Bodega Bay by looking at the weather in the Bay Area that morning.

Camping is available at Doran or Bodega Dunes state parks and motel accommodations are reportedly good at the Best Western Bodega Bay Lodge (707) 875-3525 if you want to come up Saturday. Leader: Nancy Conzett (527-2593) or (707) 875-2231.

Beginners' Trips

Saturday, May 1—Briones Regional Park. Meet at 8:30 a.m. at the parking lot past the Bear Valley entrance station. From Hwy. 24 take the Orinda exit to Camino Pablo and continue north for about two miles to Bear Creek Rd. (there is a sign to Briones Regional Park). Turn right and drive four miles east to the park entrance. Lunch optional. Leader: Gene Hull (525-6892).

Carpooling arrangements can be made for trips marked (✓). Call Kate Partridge at 524-9817 and leave a message. She will contact you.

Problems: If for any reason you have difficulty getting in touch with a field trip leader or need information regarding a trip, call Shirley Kelly (387-8290) or the GGAS office (843-2222).

—FIELD TRIPS COMMITTEE

February Observations — through February 25

WATERBIRDS

Berkeley's Yellow-billed Loon remained through Feb. 25 (mob, GH, HJ) and two or three more appeared. One was seen from a boat off Asilomar Jan. 17 (DLS) and possibly the same one was at Monterey harbor Jan. 30 (TC). The remaining individual cruised from Fort Point to Fort Mason Feb. 7-16 (BH, DM, MLR). Two Northern Fulmars were also there (MLR, LP) and several off Sausalito (GA) were similarly rare inside the Gate. A Flesh-footed Shearwater was off Monterey Jan. 16 (DLS) and a Fork-tailed Storm-Petrel was inside Monterey harbor Jan. 21 (SH).

Cattle Egrets were reported from five localities: Zmudowski State Beach Jan. 21 (BE), near upper Elkhorn Slough Jan. 24 (SH), Davis Landfill Feb. 3 (JR), 3 on Dolan Rd., Moss Landing. Feb. 7 (BS, DSe) and 5 still at San Jose Sewage Plant through Jan. 28 (RL). A surprising number of Ross' Geese peppered (salted?) Monterey County: 5 at Spanish Bay Jan. 23 (SH), 4 on a pelagic trip Jan. 24 (AB, mob), 40 on Dolan Rd. Jan. 26 (DR), one at Monterey Dunes Golf Course

near Pt. Joe Jan. 26 (SH), one at Crespi Pond Jan. 31-Feb. 7 (BSm, DR, mob) and 5 at Lake San Antonio Feb. 1 (DR)! As one did two years ago, a male Tufted Duck briefly visited Berkeley Aquatic Park Jan. 30-31 (BF). The male Tufted Duck that has wintered on northwestern Richardson Bay was refound Feb. 7 and still there Feb. 25 (SS, mob, GF). An Oldsquaw was quite out of place on a pond along Grizzly Island Rd. Jan. 30 (TS, NS). The **Smew** in Foster City is harder to see but is still found intermittently (*fide* FN).

The astounding number of **600** Mountain Plovers was estimated in Panoche Valley on Feb. 4 (NC, HG, *et al.*) and Feb. 18 (VL). In Contra Costa County, up to 41 Mountain Plovers were near Clifton Court Rd. Feb. 6-16 (BR, *et al.*). At least 23 American Golden Plovers were still near Spaletta Ranch on Pt. Reyes Feb. 12 (DS). Two **Ruffs** together at Merced National Wildlife Refuge Jan. 26-Feb. 7 (RB, *fide* KH, mob) are very interesting, especially in light of the previous Merced County winter record.

A Glaucous Gull was in Monterey harbor Feb. 11 (DR) and another was at Frick Lake northeast of Livermore Feb. 13-15 (BR, AE). A Franklin's Gull was the only rarity seen at Stockton Sewage Ponds Feb. 2 (JR, *et al.*). Our only tern that winters, the Forster's, is restricted to estuarine waters at that season, but one was at the Los Banos refuge Feb. 3 (NC, *et al.*). Two Marbled Murrelets in Monterey harbor Jan. 23 (AB, DLS) are noteworthy because this species is very rare south of Santa Cruz County.

PREDATORS

Most of the Bald Eagles previously recorded remained evident and others were noted. An adult was at Merced National Wildlife Refuge Feb. 7 (PW, *et al.*), a first year immature was by Vasco Road, Contra Costa County, Feb. 10 (DSc) and two (age?) were at the north end of Lake Berryessa Feb. 21 (BDP). Few people saw the Davis area **Gyrfalcon** after Jan. 30 (mob) and it was apparently last seen Feb. 8 (NaS). If not for the Gyrfalcon, the "Harlan's" Red-tailed Hawk in nearby Solano County Feb. 3 (RS, DDeS) probably would have escaped notice. Coyote Hills Regional Park continued to be the owl hot spot, as six species (SFB, JS, mob) included two (JS) Saw-whet Owls and a more cooperative Long-eared Owl (JS) around the visitor center.

PASSERINES

An Eastern Phoebe found earlier was still in Monterey Feb. 6 (BB, *et al.*) and a Western Flycatcher has been at Watsonville Hospital (*fide* DR). An early Rough-winged Swallow was one of four swallow species at Los Banos refuge Feb. 7 (PW, *et al.*). A total of 60 Mountain Bluebirds

was counted during the month in the area between Morgan Territory Rd. and Byron Hwy. and from Byron to Bethany Reservoir (DSc, *et al.*). Two more Townsend's Solitaires were reported, from West San Rafael Feb. 3 (LVC) and Bodega Bay Feb. 20 (JR).

At the San Francisco Zoo, the Black-and-white Warbler was seen at least through Feb. 16 (HW) and the Summer Tanager through Feb. 23 (mob, HW). By Monterey, a Palm Warbler was reported at Lover's Point Jan. 15 (JM) and a Rose-breasted Grosbeak was behind Old Del Monte Golf Course Jan. 21 (MP). Both the male and the female **Great-tailed Grackles** were seen again at San Francisco Aquatic Park Jan. 30 (DD, KemH). A Sharp-tailed Sparrow was at Palo Alto at least through Feb. 6 (AE). Four Lapland Longspurs were still in Spaletta Ranch fields Feb. 25 (DS), but Hall Ranch now has foot-high grass (RS).

Observers: Garth Alton, Rob Bacon, Stephen F. Bailey, Alan Baldridge, Bruce Barrett, Ted Chandik, Nancy Conzett, Dave DeSante, Donna Dittmann, Art Edwards, Bruce Elliott, Gary Fellers, Bob Ferguson, Helen Green, Kem Hainebach (KemH), Keith Hanson (KH), Sid Harrison, Bob Hogan, George Hugenberg, Hans Johanson, Roy Lowe, Virginia Lyon, many observers (mob), Susan McCarthy, John Moriani, Dan Murphy, Fran Nelson, Benjamin D. Parmeter, Melissa Pillow, Linda Prairie, Bob Richmond, Jean Richmond, Don Roberson, Mary Louise Rosegay, Don Schmoldt (DSc), Becca Serdeheley (BS), Dennis Serdehely (DSe—thanks to Dennis for Monterey area report), Debra Love Shearwater, Dave Shuford (DS), Betty Smith (BSm), Sue Smith, Jan Southworth, Nancy Spear (NaS), Nicki Spillane (NS), Tom Spillane, Rich Stallcup, Francis Toldi, Sandy Upson, Linc Van Cleave, Harry White, Peter White.

—STEPHEN F. BAILEY, *Observations Editor*
Museum of Vertebrate Zoology
University of California, Berkeley, CA 94720
(phone 548-9507 or 524-7421)

Incident at Tilt City

About half an hour before dawn on November 8, 1981, I heard a Great Horned Owl calling outside our cabin at Bodega Bay. A pair of owls had been hooting regularly in the vicinity since mid-October but because this one sounded unusually near, I got up and gave the world a leisurely scan.

The sky was completely clear; no wind disturbed the air. Two Black-crowned Night Herons sailed across the pinky-gold glow above the willows to the east. Looking up, I saw the owl perched about 50 feet away on a high TV antenna belonging to the neighboring cabin. Because the sun was still below the horizon the bird was only a monochromatic silhouette.

As time passed, I glanced out occasionally to watch the bird as it preened and shook out its feathers. The sky grew brighter and I suddenly realized that a second Great Horned Owl was sitting quietly on a post 20 feet below the first. Now, two big owls in one's front yard is a pretty spiffy thing, so I decided that I would photograph them when there was more light.

The sun cleared the eastern knoll and began to bring form and color to the higher bird. The second owl started to move, stretch and then, to my disappointment, flew off toward the huge old cypresses bordering our property.

Even as I watched it disappear, my peripheral vision caught something in the sky. It was big and it was gliding rapidly toward the cabin. For just an instant I wondered if it were another owl. Almost simultaneously another part of my head told me what was about to happen.

The approaching bird was an accipter and it was aiming directly for the owl on the antenna. Unaware of any danger, that bird continued to preen. At the last possible second it must have seen or heard the raptor because it ducked frantically and the hawk's talons missed its head by inches. As the attacking bird veered sharply upward it gave me a fine view of the long barred tail and the richly rust-colored breast. These marks, in conjunction with the large size, suggested to me that this was an adult Cooper's Hawk, probably a female.

It had evidently landed in a cypress over the cabin because the owl immediately went into a defensive posture. It fluffed out all body feathers and fanned its tail; the head was pulled down into the shoulders, eyes glued on the hawk; the wings were spread.

I took some pictures of this stance over a period of six to eight minutes and then decided to see if I could spot the hawk. Opening the window, I found it perched about 60 feet from the owl and perhaps 10 feet above its level. It looked slim and menacing compared to the owl's crouched volume.

Perhaps it was my movement that gave the owl the diversion it needed or maybe it simply decided to seek better shelter — whatever, it flew off in the same direction the other owl had gone. The hawk was right behind it.

I ran out the front door and saw them both fly into the trees. It was a while before I refound the owl. Through my binos I saw that its posture had returned to normal. Within a few minutes it moved to a slightly higher, more open, branch. The hawk, which had been invisible to me, immediately flew to a position less than three feet from it and the two faced each other. The hawk gave two series of about 30 very strident shrieks and then flew off toward the bay.

Later that morning I saw what I took to be the same Cooper's Hawk stooping on a flock of California Quail near the "rail ponds" at the north

end of the bay. Because this was the first of this species I had seen in the vicinity this fall I surmised that its aggression toward the owl, in addition to the known antagonism between hawks and owls, was that of a newcomer trying to establish territory.

—NANCY CONZETT

More on the Birdathon (from page 49)

battle to halt destruction of Mono Lake to the Least Tern Survey at Alameda Naval Air Station; from the struggle to curb the use of poisons in our environment to cooperative efforts to preserve habitat in Golden Gate Park and from running sanctuaries to developing an alternative National Energy Policy. This is the work you have been supporting and the kind of work you will continue to support through your continuous membership.

A birdathon is a contest similar to the walkathon, bikehike or jogathon used by nonprofit organizations to raise funds. Counters obtain pledges from sponsors (neighbors, friends, anyone!) who agree to contribute money for each bird species seen by the counter in a 24-hour period during Birdathon weekend. Pledges can be in any amount: 5¢ per species, 50¢ per species, even \$5 or more per species. The counter gives the sponsor some idea of how many species he or she expects to see and the sponsor may stipulate a maximum contribution. The counter then goes birding on Birdathon weekend, carefully noting each species on the contact form. The total number of species is tallied and the counter should call on each sponsor as soon as possible to collect the amount pledged.

Individual contestants will be eligible for national and regional awards based on the amount of money raised and for special regional prizes in two additional categories: one for the greatest number of sponsors and one for identifying the greatest number of species. The national and regional awards (based on money raised) will include valuable prizes and all winners will receive attractive trophies. Last year's Grand Prize winner, David Yee, received his choice of any *National Audubon Society Tour* for two people within the United States. Chapters will be eligible for national and regional awards based on the total amount of money raised as well as the amount per member.

You don't have to be a birder to support the Birdathon. Make your pledge to the Golden Gate Audubon Society Team. You can support an individual team member or the whole team. Individuals expect to see 100 or more species but the team total will probably be over 300 species and could be as high as 500 species. Your GGAS Birdathon Team is made up of President Jon Zablackis (birding in Southern California), Vice President Dan Murphy (birding in the Bay Area), Past President Bob Hirt (birding in Texas) and National Audubon Director George

Peyton (birding in Greece). This international effort can only be a smashing success with your help. A pledge of a penny per bird species from every GGAS member would put over \$15,000 into our national, regional and local conservation efforts. No pledge is too small or too large. Participate in the Birdathon by competing and seeking pledges or pledge your support to the GGAS Team.

Option 1: COMPETE IN THE BIRDATHON

Contact the GGAS office (843-2222) or Dan and Joan Murphy (564-0074) for directions and pledge forms.

Option 2: PLEDGE TO THE GGAS TEAM

Send a copy of this form to the GGAS office or phone your pledge to our office in Berkeley (843-2222) or to Dan and Joan Murphy in San Francisco (564-0074).

Dear GGAS:

I pledge \$..... per bird species for the NAS Birdathon.
My pledge applies to:

..... Jon Zablackis (Southern California)

..... Dan Murphy (Bay Area)

..... Bob Hirt (Texas)

..... George Peyton (Greece)

..... The GGAS Birdathon Team Total

Name:

Address:

Phone:

Mail to Golden Gate Audubon Society, 2718 Telegraph Ave., #206, Berkeley, CA 94705.

Volunteer Opportunities

SOUTH BAY SHOREBIRDS

The South Bay Institute for Avian Studies is a nonprofit group of amateur and professional ornithologists which has been studying the birds of the San Francisco Bay National Wildlife Refuge. The group has conducted studies of shorebirds nesting on dikes and levees surrounding the salt pond environment.

The South Bay Institute needs help. The group is looking for inexperienced as well as experienced persons and will train anyone who is interested and willing to commit himself to work in the south bay. People with a variety of skills are needed. If you are interested in taking your birding beyond casual observation phone Mike Rigney, 867-3791; Susie Formenti, 779-8695; or Julie Klingman, 252-6854.

Marin County Breeding Bird Atlas

From 1976 to 1978 Point Reyes Bird Observatory conducted a Breeding Bird Atlas project. The idea was to divide Marin County into 220 blocks and to have volunteers scour the countryside in the breeding season to determine *all* the species that breed in each block and thus pinpoint the breeding distribution of each species. PRBO is gearing up for the 1982 breeding season to make one final push to cover the 10 per cent of the blocks that were not covered and to fill in the gaps in a few other blocks. Volunteers are needed to spend a few days this spring looking for breeding evidence in these remaining blocks. This can be lots of fun. It is not a census, so you do not have to count individual birds; you just have to look for breeding evidence for each species. The project will culminate in the publication of the study which will include breeding distribution maps of all the species that breed in Marin.

If you are interested in participating in this cooperative scientific and conservation effort please drop a postcard to Dave Shuford c/o Point Reyes Bird Observatory, 4990 State Route 1, Stinson Beach, CA 94970 or call Dave at PRBO, 868-1221, or at home, 669-7429, for more details.

Color-Banded Sanderlings

The Sanderling Project has banded some 700 Sanderlings at Bodega Bay during the last seven years. This coming fall it will start a companion program in Ecuador and Peru, part of an international effort sponsored by the Wader Study Group to map shorebird migrations between North and South America.

To know how far from Bodega Bay these marked birds travel and to learn whether South American birds migrate northward along the coast, volunteer help is needed.

If you see a color-banded Sanderling north or south of Bodega Bay please report your sighting. Each bird has two color bands on the left leg and one or two on the right above an aluminum band. To find where your bird came from send the color combination: which colors were top and bottom, left and right legs. Even if you cannot read the bands precisely, please report when and where you saw a color-banded Sanderling.

If you want to participate as a regional coordinator or as a local observer you may phone (707) 875-2211 or write the Sanderling Project, Bodega Marine Laboratory, P.O. Box 247, Bodega Bay, CA 94923.

Conservation Notes

GGAS' PERIPHERAL CANAL RESOLUTION

IT IS RESOLVED that Golden Gate Audubon Society, with its over 6,000 members, opposes SB 200 and the construction of the Peripheral Canal.

IT IS FURTHER RESOLVED that a copy of this resolution will be sent to Governor Brown and to all state legislators representing the area served by this organization.

IT IS FURTHER RESOLVED that a copy of this resolution will be published to all members of the organization in *The Gull*, and will be sent to all California chapters of the Audubon Society, as well as the National Audubon and Western Regional officers.

IT IS FURTHER RESOLVED that the GGAS Board of Directors shall request that the boards of directors of other California chapters investigate the merits of SB 200 and the Peripheral Canal, and reiterate their positions to their legislators, members, and the National Audubon and Western Regional offices.

PERIPHERAL CANAL

(Second of a series of three articles)

In the statewide election in June, Proposition 9 (also known as Senate Bill 200) will be on the ballot. A "no" vote on that Proposition will be a vote against a multi-billion-dollar package of water measures of which the proposed peripheral canal is a major part. Based on extensive research by Robin Pulich and the Conservation Committee, the GGAS Board is urging a "no" vote.

In the March issue of *The Gull* some of the arguments supporting a "no" vote were presented. The probability of irreparable damage to the Delta (wildlife, fisheries, farmlands), the tenuous guarantees of protection of the North Coast rivers and the serious danger to the viability of the Suisun Marsh were discussed.

In addition to these serious environmental concerns, two other issues support the GGAS stand. One, the primary contractor for the water, the Metropolitan Water District (MWD), which serves six Southern California counties, does not need the water to serve the residents of its area. Further, reasonable conservation measures applied to the use of MWD's present water supplies would more than accommodate population growth and losses of Colorado River water to Arizona in 1985 by court decree.

Southern California residents served by MWD don't now use the water available to them, partially because inflated population projections have been used as a basis for present water contracts. Los Angeles basin taxpayers, for instance, have paid for 33 per cent of MWD's water but

used only 2 per cent. Water costing them \$124 per acre/foot has been declared "surplus" and resold to several large corporate southern San Joaquin Valley land owners for \$21 per acre/foot. Thus, agricultural consumers have been and would be principal beneficiaries.

Reasonable conservation measures applied by agricultural users would totally negate the alleged need for a peripheral canal or other projects to increase diversion of Northern California water. About 85 per cent of all water used in California is used by agriculture. Conservation of just 10 per cent of the amount used would increase the total available to homes and industry by one-third to one-half. Lining present agricultural and water supply canals, changing to more efficient irrigation methods and reclamation of present supplies could accomplish those savings. Together, these alternatives are far less expensive than the construction of a peripheral canal.

Next issue: Energy requirements, costs and alternatives.

—PAUL GREEN, *Conservation Committee*

The Back Yard Birder's Question Box

In California, birds are migrating many months of the year, with the peak months in the spring and fall.

Flight is one reason birds have been successful since their rise ten million years ago. Their foraging range became unlimited. More important, flight permitted them to travel long distances, to migrate to safe areas of plenty in which to raise their young and then to return to warmer climes to winter where food was more plentiful and where there was less competition for food.

Many creatures migrate—eels, salmon, whales, bison, caribou and Monarch butterflies. On a more spectacular scale are the birds and thus our fascination with this phenomenon.

The tiny Ruby-throated Hummingbird (found on the east coast) travels from 1,000 to 2,000 miles between its summer and winter homes, its wings beating 50 times a second. In order to accumulate the energy for this feat a 170-pound man would have to consume 285 pounds of hamburger in one day. Astonishing!

Before migration most species build up layers of fat to sustain them. The Blackpoll Warbler doubles its weight before its nonstop overwater flight of 2,300 miles, lasting 86 hours. During part of this flight this bird has been seen at the cold, oxygen-starved altitude of 21,000 feet in order to find favorable winds.

Finding food and good weather do not entirely explain why birds migrate. It may be that whatever conditions their movements occurred

when the world was much younger. Some species certainly head south before cold weather and food shortages are apparent; some species never feel the urge to migrate. It could be years, if ever, before scientists discover the whys of migration.

How do birds accomplish the amazing feat of migration? How do birds released thousands of miles from their birthplace return to their exact nesting area? These mysteries have been the subject of worldwide experiments. Despite extensive laboratory studies it is still not known how birds utilize their extraordinary navigational senses. Most birds use a combination of these systems:

- a sun compass (daytime migrants)
- a star compass (night fliers)
- an internal clock telling them when to migrate
- an ability to detect minute changes in barometric pressure to gauge weather conditions
- an ability to employ the magnetic field of the earth and possibly the gravitational field as well
- a sense of smell (as used by homing pigeons)
- an ability to detect polarized and ultraviolet light and to hear ultrasound (pigeons)
- an ability to use landmarks (daytime migrants)

Whether a bird migrates at night or during the day is dictated by its needs. Most night migrants are small land birds traveling long distances and considered weak fliers. By flying at night they evade predators and can use daylight to rest and to feed. Daytime migrants include small fast-flying birds that can feed as they fly and large birds such as hawks and herons who need warm thermals to keep them aloft with little expenditure of energy.

As a back yard birder you can make your own observations. In my own yard, I have noted the spring arrival of the Orange-crowned Warbler never varies more than a few days, nor does the fall appearance of the Golden-crowned Sparrow and the Hermit Thrush. Awareness of the birds' comings and goings in your area can enrich your experience as a birder.

—MEG PAULETICH

Note: Most of my references were from the August, 1979, issue of *National Geographic* and from *Watching Birds* by Roger F. Pasquier, a wonderful handbook available in paperback.

News From The Ranch

The January storm left its mark in Picher Canyon. Fortunately, structural damage was minimal but the picnic and parking areas were a mass of rock and debris. Major damage occurred at Audubon Cypress Grove when 60 feet of the berm was breached, thus subjecting Livermore Marsh to the tidal changes of Tomales Bay. Rehabilitation is under way in affected areas.

Volunteer Council docents are busy preparing for the spring classes at Picher Canyon. At Bouverie Audubon Preserve the first class consisting of 30 docents was graduated and began school visits in March. Congratulations!

The Great Blue Herons started arriving the end of January. The Ranch is now ready to welcome you and visitors from all over the world.

—BETTY BOYD

Mono Lake Photographic Exhibit

The Mono Lake Committee's reception for the major photographic exhibition, "At Mono Lake," will take place from 6:30 to 9:30 p.m. on April 16, at St. Mary's College in Moraga. "At Mono Lake" features more than 90 prints by more than 40 photographers, including Ansel Adams and Brett Weston. The exhibit runs from March 31 through April 25.

A donation of \$15 per person, \$25 per couple, is requested for the reception. Proceeds will benefit the public education and legal efforts to save Mono Lake. For reservations and further information please call Joe Marek at 541-9065 or 541-0681.

—JOE MAREK, *Mono Lake Committee*

Cooper Society Meeting

On Monday, April 5, Steve Sabo will present a talk to the Northern Chapter of the Cooper Ornithological Society entitled "The ecology and evolution of the Maui Parrotbill." The indigenous landbirds of Hawaii's montane rain forest are the least known and most threatened of any birds anywhere. Steve, who is now working on postdoctoral research at Oregon State University, will be presenting the results of his doctoral research on this fascinating bird and its troubled future. His talk, to begin at 8 p.m. in Room 2503, Life Sciences Building, UC Berkeley, will be preceded by a business meeting at 7:30 p.m. All persons interested in birds, at no matter what level of expertise, are encouraged to attend.

Point Reyes Bird Observatory

PRBO has free activities this month you may wish to attend:

Bird Migration—Discussion on the phenomenon of bird migration by Bob Yutzy, education director, 11 a.m., Saturday, April 10, at the Palomarin Research Station near Bolinas.

Heron Census—Join PRBO staff and researcher, Helen Pratt, to learn about herons and help census some heronries in Marin County, Sunday, April 18, from 9 a.m. until 2 p.m.

For details call PRBO's education coordinator, (415) 868-1221.

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Golden Gate Audubon Society, Inc.

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THE GULL

April 1982

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Send address changes to office promptly; Post Office does not forward *THE GULL*. Monthly meetings: second Thursday, 7:30 p.m. Joint membership - local and national \$25 per year (individual); \$32 (family); includes *AUDUBON* Magazine and *THE GULL*; to join, make checks payable to National Audubon Society and send to GGAS office to avoid delay in receiving *THE GULL*. Membership renewals should be sent directly to the National Audubon office. Subscriptions to *THE GULL* separately \$6 per year; single issues \$1. High school and college student membership \$15 per year. Senior citizen individual \$17, senior citizen family \$19. Associate Membership in Golden Gate Audubon Society, \$10 per year.

The Golden Gate Audubon Society, Inc. was established January 25, 1917, and became a chapter of National Audubon in 1948.

***The Gull* deadline is the first of the month for the following month.**